



ELECTRICAL CURRENTS

Newsletter from the Office of the Chief Electrical Inspector

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● October 2002 NEC Update Training Open To Electrical Stakeholders

The next open inspector training will cover 2002 National Electrical Code changes and the latest electrical WAC rule changes. The sessions are two consecutive days from 8 AM to 5 PM. You must attend both sessions to obtain any continuing education credit. We will offer **a total of sixteen (16) free hours of electrical continuing education units** (12 hours code update and 4 hours industry related) to all individuals that attend both days of the training. The instructors will be from the Labor and Industries electrical section staff. The training dates and locations are below.

Oct. 02-03, 2002 Spokane Community College, Lair Building, N 1810 Greene Street, Spokane

Oct. 21-22, 2002 Labor and Industries Building, Auditorium, 7273 Linderson Way SW, Tumwater

Oct. 24-25, 2002 Snohomish County PUD, Auditorium, 2320 California Street, Everett

Oct. 29-30, 2002 West Coast Yakima Center Hotel, 607 E Yakima Avenue, Yakima

After state, city, and factory assembled structures electrical inspector space is filled, any remaining space in the training sessions will be offered to electrical contractors, administrators, electricians, and other industry stakeholders on a first-come, first-served basis. As a benefit for those who wish to sign up, the announcement with instructions on how to register will be on our list server. (A link for joining the list server is on our Internet home page.)

Any additional space that remains after this initial announcement may be reserved by postal mail only; we will not accept registration by phone, mailed requests will not be accepted prior to September 1. If you want to register for one of the classes, reply by mail to the address below and include: 1) your name, 2) identify the session you want to attend, 3) and give us an address (mail or E-mail, not phone number) to confirm your space by mail or E-mail (your choice). **Space is limited and will be filled on a first-come, first-served basis. If you do not receive confirmation via mail or E-mail by September 25, do not attend the training.** Mail your request to: Department of Labor and Industries, ATTN: Sheila Lisle, P.O. Box 44460, Olympia, WA, 98504-4460.

● Multi-Jurisdictional Equipment?

Certified electricians working for licensed electrical contractors are required for electrical installations. But what about work that spans multiple trades such as gas furnaces, street light poles and gas station canopies?

In most cases an electrical license/certificate is not required to perform work that is related to electrical installations, such as pouring concrete pole bases, welding or assembling steel structures, or operating heavy machinery used to place electrical equipment. If the electrical law does not specifically cover these tasks, we do not require electrical licensing per Chapter 19.28 RCW, WAC 296-46A, and WAC 296-401B. However, if electrical equipment is being installed modified or maintained a licensed electrical contractor with certified electrical personnel must be continuously present and directly involved in the installation (e.g. junction boxes, wiring chases, the sign component, etc.). The following guidelines can be used to help determine the boundary between work requiring electrical licensing under Chapter 19.28 RCW and work only requiring registration under Chapter 18.27 RCW.

Electrical licensing or certification is not required:

1. To clean the non-electrical parts of an electric sign.
2. To form and pour a concrete pole base.

3. To operate heavy machinery to assist an electrician in mounting an electric sign on a building or pole.
4. To operate heavy machinery to assist an electrician in installing a pole that will support and serve as a raceway for an electric sign.
5. To assemble the structural parts of a billboard.

Electrical licensing or certification is required:

1. To install a building mounted electric sign, a pole mounted electric sign, or a pole that will support and serve as a raceway for an electric sign.
2. To install, modify, or maintain a sign face, neon tubing and associated supports for the tubing, or any other part of a listed electric sign.
3. To install conduit or conductors in a concrete pole base, concrete slab, or ditch.
4. To install, modify, or maintain any electrical equipment or conductors on any part of a building.

● **Solar Photovoltaic Systems Revisited?**

We have recently received inquiries about whether certified limited energy electricians (06) are able to install, service or maintain Solar Photovoltaic (PV) Systems.

Limited energy electricians can only service or install the **low voltage portion** of photovoltaic systems that are **rated at or below 30 volts and 1,000 volt-amperes**. Licensed (06) limited energy electrical contractors and certified (06) limited energy electricians are limited to installations of “low voltage” circuits and equipment. WAC 296 46A 92(12) defines “low voltage” as Class 1 power limited circuits at 30 volts maximum, and Class 2 and Class 3 circuits per NEC 725. NEC 725-21(a) restricts Class 1 Power-Limited Circuits to a maximum of 1,000 volt-amperes. These restrictions will prohibit the limited energy contractor and (06) electrician from working on all but the smallest systems.

It is also important to note that NEC 690-7(a) computes the maximum system voltage for a PV circuit as the sum of the rated “**open circuit**” voltage of the series-connected PV modules. It is not uncommon for what the industry considers a “12-volt” PV module to have an “open circuit” voltage in excess of 20 volts. In most cases PV modules are connected in series to operate at 24 or 48 volts. Even two of these “12-volt” modules connected in series would exceed the maximum 30-volt limit of “low voltage” circuits.

● **Modified Timeline for On-line Renewal of Licenses Certificates**

The Electrical Program is in the process of finalizing another convenient tool for electrical contractors, electricians, trainees and administrators. Since May 2002, you have had the ability to renew your electrical certificates and licenses on-line in any of our offices. Scheduled for September 2002, you will have the ability to renew at your home or workplace.

When the final roll-out is made, you will be able to pay for your renewal on the Internet by credit card (unfortunately debit cards will not be accepted) and have a receipt (i.e. temporary certificate/license) printed immediately. This electronic renewal, will allow the department to send you your permanent certificate/license in a much shorter timeframe than the current manual processing method.

● **Electrical Question of the Month**

This Month's Question: The 2002 edition of the NEC will require GFCI devices to trip when the current to ground exceeds the value required for a class A device to trip. What is the specified trip level for a class A device? A) 2 – 4ma, B) 3 – 5ma, C) 4 – 6ma, D) 20 – 30ma

Last Month's Question: In Washington State a “Low Voltage” Class 1 circuit cannot exceed ____ volts? A) 12, B) 30, C) 50, D) 600. **The answer is: B)** [WAC 296-46A-092(12) states “Low voltage” means: (a) NEC, Class 1 power limited circuits at 30 volts maximum.]